

## ABSTRACT

Techniques for detecting boundary crossings may involve the use of rectangles that approximate a boundary. Data defining the rectangles may be retrieved, and a current location of a monitored device may be identified. The current location may be compared 5 with the rectangles, and a determination that the current location is located within a rectangle may indicate a boundary crossing. To simplify the calculations on the monitored device, certain calculations may be performed in advance. For example, an angle between a selected side of a particular rectangle and an axis of the coordinate system may be determined, and the particular rectangle may be rotated by the angle to orient the rotated rectangle parallel to the axis of the coordinate system. Subsequently, location coordinates for a monitored device 10 may be rotated and compared with a corresponding rotated rectangle to determine whether the monitored device is located within the particular rectangle.

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